

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: Computational and Experimental Benchmarking for Transient Fuel Testing – Oregon State University

SECTION B. Project Description

Oregon State University, in collaboration with two universities, three national laboratories, and two industry partners, proposes to develop a comprehensive evaluation of existing Transient Reactor Test (TREAT) Facility neutronics data using the next generation reactor core neutronics codes, perform a complete thermal hydraulic characterization of existing sodium loop experimental data, the collection of experimental thermal hydraulic data of a representative TREAT Facility water flow loop, and development of a comprehensive instrumentation plan for the TREAT Facility.

SECTION C. Environmental Aspects / Potential Sources of Impact

Radioactive Material Use – A series of experiments are to be performed using an instrument thimble that will be placed within the central in-core instrumentation location of the Oregon State TRIGA reactor to demonstrate newly developed compact fission chamber performance during transient reactor operations. The reactor that will be utilized contains radioactive materials which will be used to perform this task. The reactor license enables use of these materials regulated by the Nuclear Regulatory Commission.

Radioactive Waste Generation – The materials exposed within the reactor, including the thimble and the instrumentation contained within the thimble, will result in radioactive waste generation. Quantities of materials generation are low-level and may be handled under the Oregon State University Radiation Center Radioactive Materials Handling State License.

SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s): Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B; give the appropriate justification, and the approval date.

Note: For Categorical Exclusions (CXs) the proposed action must not: 1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; 4) adversely affect environmentally sensitive resources. In addition, no extraordinary circumstances related to the proposal exist which would affect the significance of the action, and the action is not “connected” nor “related” (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts.

References: B3.6 Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial development.

Justification: The activity consists of university-scale research aimed at investigating the TREAT reactor core for planning future experimental analyses at TREAT.

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on 09/15/2015